

LAIMS

WHAT IS CLAIMED IS:

1. A method of treating an IL-23 mediated disorder comprising administering an effective amount of an:
 - a) agonist of IL-23; or
 - b) antagonist of IL-23.
2. The method of Claim 1, wherein the disorder is a:
 - a) gastrointestinal disorder; or
 - b) nervous system disorder.
3. The method of Claim 1, wherein the agonist or antagonist specifically binds to a polypeptide or nucleic acid of:
 - a) p19; or
 - b) IL-23R.
4. The method of Claim 1, wherein the agonist or antagonist comprises a:
 - a) nucleic acid; or
 - b) small molecule.
5. The method of Claim 4, wherein the nucleic acid comprises:
 - a) anti-sense nucleic acid; or
 - b) small interfering RNA (siRNA).
6. The method of Claim 1, wherein the agonist or antagonist comprises:
 - a) an antigen binding fragment of an antibody; or
 - b) a soluble receptor derived from IL-23R.

7. The method of Claim 6, wherein the agonist or antagonist is:
 - a) a polyclonal antibody;
 - b) a monoclonal antibody;
 - c) a humanized antibody or binding fragment thereof;
 - d) an Fab, Fv, or F(ab')₂ fragment;
 - e) a peptide mimetic of an antibody;
 - f) detectably labeled.
8. The method of Claim 2, wherein treatment is with an antagonist of IL-23 and the nervous system disorder comprises a:
 - a) central nervous system (CNS) disorder; or
 - b) peripheral nervous system (PNS) disorder.
9. The method of Claim 1, wherein treatment is with an antagonist of IL-23 and the condition or disorder comprises:
 - a) multiple sclerosis;
 - b) neuropathic pain;
 - c) amyotrophic lateral sclerosis (ALS);
 - d) ischemic brain injury; or
 - e) inflammatory bowel disorder.
10. The method of Claim 9, wherein the inflammatory bowel disorder comprises:
 - a) Crohn's disease;
 - b) ulcerative colitis;
 - c) celiac disease;
 - d) mucosal thickening;
 - e) epithelial hyperplasia;
 - f) inflammation of the submucosa or tunica muscularis; or
 - g) infiltration by granulocytes or macrophages.

11. The method of Claim 1, wherein the agonist or antagonist of IL-23 is co-administered with an agonist or antagonist of:

- a) IL-12;
- b) interferon-gamma (IFN γ);
- c) IL-6;
- d) IL-17; or
- e) IL-10.

12. The method of Claim 2, wherein the nervous system disorder is exacerbated by an antagonist of:

- a) IL-12; or
- b) IFN γ .

13. The method of Claim 2, wherein the nervous system disorder:

- a) comprises an increase in microglial expression of p19;
- b) comprises an increase of CNS macrophage expression of IL-23R or p19; or
- c) can be generated in human or animal subject by administration of exogenous IL-17 producing cells to the subject.

14. The method of Claim 1, wherein treatment with the antagonist of IL-23 inhibits activation of a resident microglial cell.

15. The method of Claim 14, wherein the:

- a) microglial cell is CD11b⁺CD45^{low}; or
- b) activation comprises up-regulation of MHC-Class II.

16. The method of Claim 1, wherein the antagonist of IL-23 inhibits:
 - a) expression of IL-1beta by a macrophage;
 - b) expression of tumor necrosis factor (TNF) by a macrophage; or
 - c) infiltration of a macrophage into the central nervous system (CNS).
17. The method of Claim 16, wherein the macrophage is:
 - a) F4/80⁺;
 - b) CD11b⁺;
 - c) CD11c⁻; or
 - d) B220⁻.
18. A purified or isolated IL-17 producing CD4⁺ T cell that upon treatment with IL-23 has a 10-fold higher expression of at least one gene of Table 10B when compared to treatment with IL-12.
19. The IL-17 producing T cell of Claim 18 that is:
 - a) CD62L^{lo}CD44^{hi}; or
 - b) CD45RB^{lo}.
20. A method of generating the IL-17 producing CD4⁺ T cell of Claim 18, comprising contacting a T cell with a substantially pure preparation of IL-23 or an agonist thereof.